

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-22 (canceled).

Claim 23 (original): A method for inducing differentiation or inhibiting proliferation of a cell, comprising

altering the level of a nucleostemin polypeptide comprising an amino acid sequence at least 80% identical to SEQ ID NO: 6 in the cell,  
thereby inducing differentiation or inhibiting proliferation of the cell.

Claim 24 (original): The method of claim 23, wherein altering the level of the nucleostemin polypeptide comprises increasing the level of the polypeptide.

Claim 25 (original): The method of claim 23, wherein altering the level of the nucleostemin polypeptide comprises decreasing the level of the polypeptide.

Claim 26 (original): The method of claim 23, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 6.

Claim 27 (original): The method of claim 23, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 4.

Claim 28 (original): The method of claim 23, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 2.

Claim 29 (original): The method of claim 23, wherein the nucleostemin polypeptide has a sequence set forth as SEQ ID NO: 10.

Claim 30 (original): The method of claim 23, wherein the cell is a tumor cell.

Claim 31 (original): The method of claim 23, wherein the cell is *in vitro*.

Claim 32 (original): The method of claim 23, wherein the cell is *in vivo*.

Claim 33 (original): The method of claim 23, wherein altering the level of the nucleostemin polypeptide comprises increasing transcription of a nucleic acid sequence encoding the nucleostemin polypeptide.

Claim 34 (original): The method of claim 23, wherein altering the level of the nucleostemin polypeptide comprises altering the amount of the polypeptide bound to p53.

Claim 35 (original): The method of claim 23, wherein altering the level of the nucleostemin polypeptide comprises introducing into the cell a small inhibitory RNA that specifically binds a polynucleotide encoding the nucleostemin polypeptide.

Claim 36 (original): The method of claim 23, wherein the cell is a stem cell.

Claim 37 (original): A method of screening for agents that affect differentiation or proliferation of a cell; comprising

contacting p53 and a nucleostemin polypeptide comprising an amino acid sequence at least 80% identical to SEQ ID NO: 6 with an agent of interest *in vitro*; and  
evaluating binding of p53 and the nucleostemin polypeptide; wherein a decrease in the binding of p53 and the nucleostemin polypeptide as compared to a control indicates that the agent affects differentiation or proliferation of the cell.

Claim 38 (original): The method of claim 37, wherein the control is a standard value.

Claim 39 (original): The method of claim 37, wherein the control is the binding of p53 and the nucleostemin polypeptide in the absence of the agent.

Claim 40 (original): A method of inducing senescence of a cell, comprising altering the level of a polypeptide comprising an amino acid sequence at least 80% identical to SEQ ID NO: 6, thereby inducing senescence of the cell.

Claim 41 (original): The method of claim 40, wherein altering the level of the nucleostemin polypeptide comprises increasing the level of the polypeptide.

Claim 42 (original): The method of claim 40, wherein altering the level of the nucleostemin polypeptide comprises decreasing the level of the polypeptide.

Claim 43 (original): The method of claim 40, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 6.

Claim 44 (original): The method of claim 40, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 4.

Claim 45 (original): The method of claim 40, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 2.

Claim 46 (original): The method of claim 40, wherein the nucleostemin polypeptide comprises an amino acid sequence set forth as SEQ ID NO: 10.

Claim 47 (original): The method of claim 40, wherein the cell is a tumor cell.

Claim 48 (original): The method of claim 40, wherein the cell is a stem cell.

Claim 49 (original): The method of claim 40, wherein the cell is *in vitro*.

Claim 50 (original): The method of claim 40, wherein the cell is *in vivo*.

Claim 51 (original): A method of decreasing proliferation of a tumor cell in a subject, comprising administering to the subject a therapeutically effective amount of an agent that alters the level of a nucleostemin polypeptide comprising an amino acid sequence at least 80% identical to SEQ ID NO: 6, thereby decreasing proliferation of the tumor cell in the subject.

Claim 52 (original): The method of claim 51, wherein the agent is a small inhibitory RNA that specifically binds a polynucleotide encoding the nucleostemin polypeptide.

Claim 53 (original): The method of claim 51, wherein the agent is a polynucleotide encoding a nucleostemin polypeptide.

Claim 54 (original): The method of claim 51, wherein the agent is a p53.

Claim 55 (original): A method for inducing differentiation, inducing senescence, or inhibiting proliferation of a cell, comprising  
altering the level of a nucleostemin polypeptide comprising an amino acid sequence set forth as SEQ ID NO: 10 in the cell,  
thereby inducing differentiation, inducing senescence or inhibiting proliferation of the cell.

Claim 56 (original): The method of claim 55, wherein the cell is a tumor cell.

Claim 57 (original): The method of claim 55, wherein the cell is *in vitro*.

Claim 58 (original): The method of claim 55, wherein the cell is *in vivo*.

Claim 59 (original): The method of claim 55, wherein altering the level of the nucleostemin polypeptide comprises increasing transcription of a nucleic acid sequence encoding the nucleostemin polypeptide.

Claim 60 (original): The method of claim 55, wherein altering the level of the nucleostemin polypeptide comprises altering the amount of the polypeptide bound to p53.

Claim 61 (original): The method of claim 55, wherein altering the level of the nucleostemin polypeptide comprises introducing into the cell a small inhibitory RNA that specifically binds a polynucleotide encoding the nucleostemin polypeptide.

Claim 62 (original): The method of claim 55, wherein the cell is a stem cell.

Claim 63 (original): An antibody that specifically binds the polypeptide of claim 1.